

STATEMENT OF BASIS

Applicant:	International Paper
Permit Number:	SD0026867
Contact Person:	Philip J Slowiak, Senior Project Manager 6400 Poplar Avenue Memphis, TN 38197 Bill Cooper, Plant Manager
Phone:	(901) 419-3845 (Owner) (605) 269-2215 (Facility)
Permit Type:	Minor Industrial Facility - Renewal

DESCRIPTION

International Paper owns and operates a groundwater pump-out and treatment system for the recovery of contaminants released to groundwater from the operation of their old wood treating facility southeast of the city of Whitewood in the northwest ¼ of Section 27, Township 6 North, Range 4 East, in Lawrence County, South Dakota (Latitude 44.458389, Longitude -103.626111 – map interpolation).

Monitoring is being conducted because of various spills of wood treating products over International Paper's long history and because of wastewater that was discharged to seepage basins on this site until 1980. The treatment system in place is designed to remove wood preservative products, such as naphthalene and pentachlorophenol, which were detected in the ground water beneath International Paper's property. 2,3,7,8 Tetrachlorodibenzo-P-Dioxin has also been found in the ground water in concentrations that justify monitoring for it. The ground water is treated by filtering it through a bag filter vessel, followed by two carbon contactors. Both contactor vessels contain approximately 2,000 pounds of granular activated carbon. The treated groundwater is re-infiltrated through two infiltration beds located within the capture zone of the pump-out system, above an existing plume of contaminated ground water. Since the discharge from the remediation system is infiltrated back into the plume and is cleaner than the concentrations in the plume, a ground water discharge permit is not required. Only one infiltration bed has been utilized to date and can receive up to 40 gallons per minute (permit application). The spent filtration material must be tested and disposed of in accordance with the appropriate regulatory requirements.

International Paper owns the ground water pump-out system, which pumps and treats the contaminated ground water (north of the service road). However, the water is pumped to infiltration beds that are located on Wheeler Lumber's property (south of the service road). See Attachment 1 for a list of the Organic Toxic Pollutants taken from ARSD 74:52:02:41.

RECEIVING WATERS

Any discharge from this facility will enter Whitewood Creek, which is classified by the South Dakota Surface Water Quality Standards (SDSWQS), Administrative Rules of South Dakota (ARSD), Sections 74:51:03:01 and 74:51:03:10 for the following beneficial uses:

- (3) Coldwater marginal fish life propagation waters;
- (7) Immersion recreation waters;
- (8) Limited-contact recreation waters;
- (9) Fish and wildlife propagation, recreation, and stock watering waters; and
- (10) Irrigation waters.

ANTIDEGRADATION

The South Dakota Department of Environment and Natural Resources (SDDENR) has fulfilled the antidegradation review requirements for this permit. In accordance with South Dakota's Antidegradation Implementation Procedure and the SDSWQS, no further review is required. The results of SDDENR's review are included in Attachment 1.

MONITORING DATA

International Paper is a no discharge facility and, has not discharged to surface waters. Attachment 3 shows the pentachlorophenol treatment system data collected by Wheeler Lumber for the dates between 1993 and 2008. The chart in Attachment 2 also shows the concentration of pentachlorophenol is generally trending downward.

INSPECTIONS

Personnel from SDDENR conducted a compliance Inspection of the International Paper treatment facility on January 16, 2007. The following comments were made:

The following comments and corrective actions are ***required*** in order to come into compliance with the facility's Surface Water Discharge (SWD) permit.

COMMENT	REQUIRED CORRECTIVE ACTION
A copy of the Surface Water Discharge permit was not on-site during the inspection.	The permit contains information on who to contact, what samples need to be taken, etc if an emergency situation occurs at the ground water remediation site. A copy of the Surface Water Discharge permit must be kept on-site.

The following comments and corrective actions are ***recommended*** and are items that will improve the operation of your facility.

COMMENT	RECOMMENDED CORRECTIVE ACTION
There were some large trees and other vegetation growing in the infiltration basin and	The trees and vegetation should be eliminated by spraying and/or cutting to prevent

COMMENT	RECOMMENDED CORRECTIVE ACTION
on the dikes.	erosion/seepage damage to the infiltration basin or the dikes.

EFFLUENT LIMITS

International Paper shall have no surface water discharge from its ground water treatment facility except in accordance the emergency release or bypass provisions of this permit. A no discharge permit is issued to facilities that are not expected to discharge under normal conditions. The no discharge requirement is based on past facility performance and Best Professional Judgment (BPJ).

SELF MONITORING REQUIREMENTS

Monitoring shall consist of **weekly** inspections of the facility to verify that there is no discharge to surface waters and that proper operation and maintenance is being practiced. Documentation of each of these visits shall be recorded in a notebook to be reviewed by SDDENR or EPA personnel when an inspection occurs.

If a discharge to surface waters is discovered, the discharge shall be monitored and the proper authorities shall be notified in accordance with the Emergency and Noncompliance Reporting requirements stated in the Surface Water Discharge permit.

Promptly upon discovery of a release, or other discharge, the discharge shall be monitored as shown below:

Effluent Characteristic	Frequency	Reporting Values	Sample Type ¹
Flow Rate, (MGD)	Daily	Event Total	Instantaneous
pH, standard units	Daily	Daily Maximum and Daily Minimum	Instantaneous
Water Temperature, ° C	Daily	Daily Maximum	Instantaneous
Total Flow, million gallons	Each discharge	Event Total	Calculated
Duration of Discharge, days	Each discharge	Event Total	Calculated
Total Suspended Solids, mg/L	Daily	Daily Maximum	Grab
Five Day Biochemical Oxygen Demand (BOD ₅), mg/L	Daily	Daily Maximum	Grab
Nitrates (as N), mg/L	Daily	Daily Maximum	Grab
Total Hardness (as CaCO ₃), mg/L	Daily	Daily Maximum	Grab
Total Organic Carbon, mg/L	Daily	Daily Maximum	Grab

¹ See Definitions.

Effluent Characteristic	Frequency	Reporting Values	Sample Type ¹
Total Petroleum Hydrocarbons, mg/L ²	Daily	Daily Maximum	Grab
Total Recoverable Arsenic, µg/L	Daily	Daily Maximum	Grab
Total Recoverable Chromium, µg/L	Daily	Daily Maximum	Grab
Total Recoverable Copper, µg/L	Daily	Daily Maximum	Grab
2,3,7,8 Tetrachlorodibenzo-P-Dioxin, µg/L	Daily	Daily Maximum	Grab
Volatiles listed in ARSD, §74:52:02:41, µg/L ³	Weekly	Daily Maximum	Grab
Acid Compounds listed in ARSD, § 74:52:02:41, µg/L ³	Weekly	Daily Maximum	Grab
Base/Neutral Compounds listed in ARSD, §74:52:02:41, µg/L ³	Weekly	Daily Maximum	Grab
Pesticides listed in ARSD, §74:52:02:41, µg/L ³	Weekly	Daily Maximum	Grab

² Use Standard Methods: 5520 with silica gel.

³ Gas Chromatography/Mass Spectroscopy shall be used to determine the presence and concentration of any priority pollutants belonging to these groups.

ENDANGERED SPECIES

This is a renewal of an existing permit and does not allow a discharge to surface water. The only endangered species listed for Lawrence County is the Whooping Crane. However, no listed endangered species are expected to be impacted by activities related to this permit.

PERMIT EXPIRATION

A five-year permit is recommended.

PERMIT CONTACT

Any questions pertaining to this statement of basis can be directed to Jonathan Hill, Natural Resource Engineer, for the Surface Water Quality Program, at (605) 773-3351.

January 14, 2009

Attachment 1

Antidegradation Review

Permit Type: **Minor Industrial - Renewal** Applicant: **International Paper**

Date Received: **March 20, 2008** Permit #: **SD0026867**

County: **Lawrence** Legal Description: **NW ¼ of Sec. 27, T006N, R04E**

Receiving Stream: **Whitewood Creek** Classification: **3,7,8,9,10**

If the discharge affects a downstream waterbody with a higher use classification, list its name and uses: **NA**

APPLICABILITY

1. Is the permit or the stream segment exempt from the antidegradation review process under ARSD 74:51:01? Yes ☒ No ☐ If no, go to question #2. If yes, check those reasons why the review is not required:

- ☐ Existing facility covered under a surface water discharge permit is operating at or below design flows and pollutant loadings;
- ☐ *Existing effluent quality from a surface water discharge permitted facility is in compliance with all discharge permit limits;
- ☐ *Existing surface water discharge permittee was discharging to the current stream segment prior to March 27, 1973, and the quality and quantity of the discharge has not degraded the water quality of that segment as it existed on March 27, 1973;
- ☐ *The existing surface water discharge permittee, with DENR approval, has upgraded or built new wastewater treatment facilities between March 27, 1973, and July 1, 1988;
- ☐ The existing surface water discharge permittee discharges to a receiving water assigned only the beneficial uses of (9) and (10); the discharge is not expected to contain toxic pollutants in concentrations that may cause an impact to the receiving stream; and DENR has documented that the stream cannot attain a higher use classification. This exemption does not apply to discharges that may cause impacts to downstream segments that are of higher quality;
- ☐ Receiving water meets Tier 1 waters criteria. Any permitted discharge must meet water quality standards;
- ☐ The permitted discharge will be authorized by a Section 404 Corps of Engineers Permit, will undergo a similar review process in the issuance of that permit, and will be issued a 401 certification by the department, indicating compliance with the state's antidegradation provisions; or
- ☒ Other: This permit does not allow a discharge, except in accordance with the emergency release, or bypass, provisions of the proposed permit.

*An antidegradation review is not required where the proposal is to maintain or improve the existing effluent levels and conditions. Proposals for increased effluent levels, in these categories of activities are subject to review.

No further review required.

ANTIDEGRADATION REVIEW SUMMARY

2. The outcome of the review is:

- ☒ A formal antidegradation review was not required for reasons stated in this worksheet. Any permitted discharge must ensure water quality standards will not be violated.
- ☐ The review has determined that degradation of water quality should not be allowed. Any permitted discharge would have to meet effluent limits or conditions that would not result in any degradation estimated through appropriate modeling techniques based on ambient water quality in the receiving stream, or pursue an alternative to discharging to the waterbody.
- ☐ The review has determined that the discharge will cause an insignificant change in water quality in the receiving stream. The appropriate agency may proceed with permit issuance with the appropriate conditions to ensure water quality standards are met.
- ☐ The review has determined, with public input, that the permitted discharge is allowed to discharge effluent at concentrations determined through a total maximum daily load (TMDL). The TMDL will determine the appropriate effluent limits based on the upstream ambient water quality and the water quality standard(s) of the receiving stream.
- ☐ The review has determined that the discharge is allowed. However, the full assimilative capacity of the receiving stream cannot be used in developing the permit effluent limits or conditions. In this case, a TMDL must be completed based on the upstream ambient water quality and the assimilative capacity allowed by the antidegradation review.
- ☐ Other: _____

3. Describe any other requirements to implement antidegradation or any special conditions That are required as a result of this antidegradation review: _____

Jonathan Hill
Reviewer

December 11, 2008
Date

Kelli D. Buscher, P.E.
Team Leader

December 11, 2008
Date

Attachment 2

Wheeler Lumber Pentachlorophenol Treatment System Data from 1993 to 2008

pentachlorophenol		
Date	INFLUENT (mg/l)	EFFLUENT (mg/L) (Discharge to Infiltration Bed)
Jul-93		0.003
Mar-94		0.244
Apr-94		0.038
May-94		0.251
Jun-94		1.02
Sep-94		0.063
Oct-94		0.025
Nov-94		0.042
Feb-95		0.908
May-95	1.4	0.682
Oct-95	0.232	0.0034
Jan-96	1.184	0.195
May-96	0.176	0.018
Sep-96	0.16	0.083
Nov-96	3.02	1.16
Feb-97	0.03	0.003
Jun-97	0.051	0.003
Sep-97	0.518	0.123
Dec-97	1	0.516
Mar-98	0.524	0.044
May-98	0.29	0.056
Sep-98		0.0029
Dec-98	0.893	0.013
Mar-99	1.55	0.049
Jun-99	0.69	0.003
Oct-99	0.802	0.059
Dec-99	1.01	0.525
Mar-00	0.365	0.227
Jun-00	0.559	0.022
Sep-00	1.11	0.13
Dec-00	0.383	0.0029
Mar-01	0.049	0.038
Apr-01	0.228	0.085
Jul-01	0.596	0.054
Sep-01	0.693	0.136
Mar-02	0.97	0.173
May-02	0.812	0.124
Sep-02	0.49	0.144
Dec-02	0.523	0.116
Mar-03	0.394	0.244
Jul-03	0.31	0.241
Sep-03	0.576	0.569
Nov-03	0.376	0.01
Mar-04	0.85	0.084

pentachlorophenol		
Date	INFLUENT (mg/l)	EFFLUENT (mg/L) (Discharge to Infiltration Bed)
Jun-04	0.263	<0.0035
Sep-04	0.362	<0.0035
Dec-04	0.214	<0.0035
Mar-05	0.107	<0.0035
Jun-05	0.0584	<0.0035
Sep-05	0.39	0.0012
Mar-06	0.155	<0.0035
Jul-06	0.0245	<0.0035
Sep-06	0.136	<0.0035
Dec-06	0.864	0.194
Mar-07	0.714	0.122
Jun-07	0.134	<0.0035
Sep-07	0.141	0.075
Mar-08	0.982	0.008

